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In the Drawings:

Please review the request for the following drawing amendment:

1. In Figure 2, please add the "micro-controller unit 32 to the child car seat 16" and the "cable harness 60" between the micro-controller unit 32 and other vehicle sensors and alarms. Cushion switch cable 42 is shown connected to the micro-controller input.
2. In Figures 4 and 5, please change the term "controller unit" to "micro-controller unit."

In the Specification:

Please amend the specification as follows:

On page 4 of the original specification, please amend the paragraph beginning at line 24, as follows:

To attain this, the present invention essentially comprises a child's car seat that has a seat cushion with a built-in switch that closes when the seat is occupied. Additionally, push type switches are added to one or more of the vehicle's side passenger doors including at least the driver's door. Signals from these switches are routed to a micro-controller unit, which determines when the car seat is occupied AND when at least one door is open and enables an internal beeper alarm or optional voice command, such as 'child onboard.' Power and ground for the system are obtained from the vehicles electrical system to avoid any possibility of weak batteries, which could cause the system to be inoperable. This system will remind any

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responsible person leaving the vehicle that a child is strapped in the back seat.

On page 5 of the original specification, please amend the paragraph beginning at line 3, as follows:

Additionally, an inside temperature sensor can be coupled to the micro-controller, which sets off a loud external alarm, such as the vehicle's security alarm, when the temperature inside the vehicle goes above or below a preprogrammed safety range. This is an additional safety feature that will get the attention of people outside or passing by the vehicle that a child is trapped in a dangerous environment inside the vehicle and needs immediate help.

On page 5 of the original specification, please amend the paragraph beginning at line 8, as follows:

This system can be supplied as a retrofit kit for installation in existing vehicles. Preferably, for a relatively low cost, vehicle manufacturers could provide a cable accessible in the vicinity of the rear seat with signals to or from such equipment as door switches, input to the internal beeper and external security alarm, internal temperature sensor, power, and ground. Similarly, car seat manufactures could provide a seat switch and connector and possibly even the micro-controller unit. Ultimately, the vehicle manufacturers could also include the micro-controller functions, which may consist of a microprocessor or other digital micro-controller so that only the car seat switch would need to be plugged into an available cable connector.

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On page 7 of the original specification beginning at line 12, please amend the brief description of Figure 2 beginning at line 12, as follows:

Figure 2 is a perspective view of a car seat equipped with a seat cushion with a built-in pressure switch and a micro-controller unit of the present invention.

On page 8 of the original specification, please amend the paragraph describing Figure 1 beginning at line 5, as follows:

In Figure 1, a preferred embodiment of the occupant detection and notification system 10 constructed in accordance with the principles of the present invention are illustrated and will be described. More particularly, the occupant detection and notification system 10 is comprised of a vehicle 12 having two or more passenger doors 14, where adults 20 enter and exit the vehicle, with each door having a door switch (four shown) 22-28. One or more typical child car seat(s) 16 are installed in the rear seat of the vehicle. A unique aspect of the car seat is a cushion pressure switch 30, either built-in to the car seat or retrofitted to the seat, such that it is enabled when the car seat is occupied by a child 18. The occupant detection and notification system 10 further comprises a micro-controller unit 32, an internal vehicle alarm (beeper) 34, an external vehicle (loud security type) alarm 36, and an inside temperature sensor 38.

On page 8 of the original specification, please amend the paragraph describing Figure 2 beginning at line 15, as follows:

Figure 2 shows a perspective view of a child car seat 16 of the type needed for use with

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the present invention. The child car seat 16 has typical locking seat belts 44, a car seat cushion 40 with built-in pressure switch 30, a micro-controller unit 32, and a cushion switch cable 42 coupled to the micro-controller unit 32, and a cable harness 60 for connecting the system to other input/output components in the vehicle. The seat cushion with pressure switch can either be built into the child car seats by the manufacturer or can be a separate item that can be attached to existing child car seats. In operation, the seat cushion pressure switch 30 is enabled only when the child car seat is occupied.

On page 8 of the original specification, please amend the paragraph describing Figure 3 beginning at line 21, as follows:

Figure 3 is a cross-sectional drawing of a seat cushion pressure switch 30 showing the functional requirements of the switch needed for use in the occupant detection and notification system of the present invention. Various types of switches can be used for this purpose. In this prototype switch, which is mounted inside a separate seat cushion, a normally open push button 314 switch 310 is shown mounted on a switch mounting plate 300. A switch pressure plate 302 is attached at the corners to the switch mounting plate 300 by means of bolt 304 and nut 308 hardware. A large area seat pressure plate 318 is attached to the switch pressure plate 302 by means of a spacer 316. Each bolt 304 has a spring 306 mounted concentrically around it to allow the switch pressure plate 302 to press downward on the switch push button 314 when a baby or child is sitting on the seat cushion, thereby enabling the seat cushion pressure switch 30 and to cause the switch to return to the inhibited position when the child is removed from the seat. A

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seat cushion switch cable 42 connects to switch terminals 312 for coupling the pressure switch signal to the micro-controller unit 32.

On page 9 of the original specification, please amend the paragraph describing Figure 4 beginning at line 4, as follows:

Figure 4 is a schematic diagram of the preferred embodiment of the occupant detection and notification system of the present invention with additional vehicle inside temperature sensing capability. This shows a micro-controller unit 32 with input signals connected from the vehicle's door switches 22-28 and from the seat cushion pressure switch means 30. An output from the micro-controller unit is coupled to an internal vehicle alarm 34 for gaining the attention of responsible occupants of the vehicle when exiting the vehicle. At least the door switch 22 at the front driver's side needs to be coupled to the micro-controller unit, but typically switches from all vehicle passenger doors would be coupled to the micro-controller unit. An additional and very important inside temperature sensor 38 is also coupled to the micro-controller unit 32 with a second output from the micro-controller unit 32 driving an external (security type) vehicle alarm that has the audible volume to gain the attention of people in the surrounding vicinity of the vehicle. The internal vehicle alarm 34 can be a beeper, a voice command, or other desired audio sound loud enough to get the attention of a person exiting the vehicle. This alarm can be added to the vehicle or an existing internal alarm, such as that used to indicate that the lights are on or the key is left in the ignition. The external vehicle alarm can be the same as the security

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alarm built in a vehicle. A minimum embodiment of the system would include only the internal notification features.

On page 9 of the original specification, please amend the paragraph describing Figure 5 beginning at line 20, as follows:

Figure 5 is a block diagram of the occupant detection and notification system of the present invention, which summarizes the system as discussed above. Here the cushion pressure switch 30, door switches 22-28, inside temperature sensor 38, and vehicle power supply 46 are shown coupled to inputs of the micro-controller unit 32. Outputs from the micro-controller unit 32 are then coupled to the internal vehicle alarm 34 and the external vehicle alarm 36.

On page 9 of the original specification, please amend the paragraph beginning at line 25, as follows:

This system can either be retrofitted to a vehicle or various portions of the system could be supplied by a vehicle manufacturer at a reasonably small cost. Figure 6 is a drawing illustrating a vehicle cable harness 60 that could be supplied by a vehicle manufacturer for use with the occupant detection and notification system of the present invention. This vehicle cable harness 60 routes signals from the already available components in the vehicle; e.g. door switches 22-28, inside temperature sensor 38, positive voltage 48, and chassis ground 50 to a micro-controller unit 32, that is added in the vehicle 12 in close proximity or on the child car seat 16. The cable harness also carries output signals from the micro-controller unit 32 to the internal

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vehicle alarm 34 and the external vehicle alarm 36. This vehicle cable harness 60 would come out of the rear seat of the vehicle at one or more locations to allow quick connection to the cushion pressure switch 30 of one or more child car seats.

On page 10 of the original specification, please amend the paragraph describing Figure 7 beginning at line 6, as follows:

Similarly, Figure 7 is a drawing illustrating the system of the preferred embodiment of the present invention where the vehicle manufacturer supplies everything except the child car seat, with only the seat cushion pressure switch 30 being plugged into the built-in vehicle electrical system's micro-controller 70 to easily and quickly complete installation of the system. In this preferred embodiment one of the vehicle's existing micro-controllers is used to control the system. As shown, the door switches 22-28, the inside temperature sensor 38, positive voltage 48, and chassis ground 50 are inputs to the vehicle's controller 52 and outputs from the micro-controller are coupled to the internal vehicle alarm 34 and external vehicle alarm 36. Most of these connections are likely to already exist or should be able to be made at a nominal cost. In this case only a small cable carrying the cushion pressure switch 30 to the vehicle's micro-controller 52 is required to complete the system.

On page 10 of the original specification, please amend the paragraph describing Figure 8 beginning at line 17, as follows:

Figure 8 describes the use of the occupant detection and notification system of the present

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invention by means of a system flow diagram 80. The micro-controller unit of the present invention is programmed to carry out the control functions specified in the flow diagram of Figure 8. The child in car seat block 800 is used to determine if the child car seat 16 is occupied or not. If not, the system remains inhibited. As soon as a child is placed in the child car seat 16 the initial system delay block 802 is triggered delaying the enablement of the system for a preset time to allow other people to get in the vehicle and the doors to be shut. Once all occupants are in the vehicle, it is assumed that the inside environment will be maintained at a safe temperature. When the vehicle is parked, the door(s) open block 804 detects when at least one of the passenger doors 14 is opened and triggers the enable internal alarm block 806, which in turn enables the internal vehicle alarm 34 to beep, give a voice command, or other signal, thereby notifying the driver and/or other passengers that there is a child onboard. This alarm continues to sound until the child is removed from the car seat or the door(s) closed block 808 detects that all door(s) are in fact closed and resets the system turning off the inside notification alarm.

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In the Abstract:

On page 16 of the original specification, please amend the abstract, as follows:

A child car seat with a built-in cushion switch that closes when the seat is occupied. Also, push type switches are added to at least one of the vehicle's side passenger doors with signals being routed to a micro-controller unit, which determines when the car seat is occupied AND when one of the doors is open and enables the vehicle's internal beeper alarm, thereby reminding any occupants exiting the vehicle that a child is strapped in the back seat. Additionally, an inside temperature sensor is coupled to the micro-controller unit, which sets off a loud external alarm such as the vehicle's security alarm, when the temperature inside the vehicle goes above or below a safe preprogrammed environmental range. This is an additional safety feature that will get the attention of people outside the vehicle, indicating that a child is trapped in a dangerous environment inside the vehicle and needs help.